STATE OF MINNESOTA DISTRICT COURT

COUNTY OF HENNEPIN FOURTH JUDICIAL DISTRICT

State of Minnesota, by the Minnesota Pollution Control Agency,

Plaintiff,

vs.

COURT FILE NO. 670767

Reilly Tar & Chemical Corporation,

Defendant.

AFFIDAVIT OF DALE L. WIKRE

STATE OF MINNESOTA)
) ss.
County of Ramsey)

I, DALE L. WIKRE, being first duly sworn on oath, depose and say that:

1. I am a Senior Geologist with the Water Quality Division of the Minnesota Pollution Control Agency (hereinafter "MPCA") and have been a member of the MPCA's Water Quality Division Staff since December, 1969. My special area of expertise and responsibility at the MPCA has to do with the application of industrial and other wastes directly to the land surface, with particular emphasis on the resulting impact on ground water quality.

2. Since 1970, I have had varying responsibilities with respect to investigation of the ground water pollution caused by the conduct of Reilly Tar & Chemical Corporation (hereinafter "Reilly Tar") in disposing of its coal tar and creosote wastes to the surface of the ground at its site in St. Louis Park, Minnesota. The investigation of this ground water contamination and an assessment of possible remedies to abate the contamination has always presented and still presents technical issues of extraordinary complexity.

3. The definition and solution of this type of ground water contamination is among the most difficult that exists. The contamination took place over several decades. There are no accurate records of the quantity or quality of waste that entered

the ground. The waste is a mixture of possibly 200 different compounds. Each of these compounds has different physical and chemical properties. Analysis for these compounds is technically difficult and expensive. The wastes were discharged in an area of very complicated geology.

4. The surfical geology is a mixture of several sand, clay and peat layers. While the contaminated area covers roughly 80 acres, the composition, thickness or actual existence of these layers can change in less than 100 feet. The bedrock geology is also complicated. It is composed of a series of limestones, sandstones and shales. The surface of the bedrock is irregular due to erosional channels created before and during past periods of glaciation.

5. The ground water hydrology is also difficult to define. There are several aquifers underlying the site. Ground water in each aquifer flows in different directions, under different pressures, and at different rates. All of this is affected by intermittent heavy pumping of various adjacent wells and by seasonal fluctuations in the water table. The hydrology is further complicated by the existence of known and unknown open hole wells in the area and the nature of the bedrock geology.

6. Prior to the filing of the original complaint in this action, the MPCA was aware of no solid evidence of significant ground water pollution beneath the Reilly Tar site. While some ground water sampling had indicated very low levels of phenols (a substance which imparts a bad taste to water but which is not believed to pose a significant health hazard) in isolated instances, other ground water samples analyzed by more accurate measurement techniques failed to indicate any detectable levels of phenols. In the MPCA's judgment, there was not adequate evidence, at the time of the filing of the original complaint in this action, to support a claim of injury to the ground water. While injury to the ground water was, in fact, feared by the MPCA, the ultimate injury to the ground water remained unknown and unpredictable.

7. It has always been my position, and it has always been the position of the MPCA, that the problem of pollution at the old Reilly Tar site will not be solved and the issue cannot be considered closed until such time as the ultimate injury to the ground water has become sufficiently known or predictable to make a judgment as to the extent of harm and the nature and scope of necessary remedial measures.

8. Because of the MPCA's fear that the ground water might have been contaminated below the Reilly Tar site and because of the fear that such contamination may spread in the future, the MPCA, the Minnesota Department of Health, and the City of St. Louis Park (hereinafter "City"), instituted an ongoing program of ground water investigation after the filing of the lawsuit. Sampling and analysis conducted by the Carnegie-Mellon Institute and the Rice Division of NUS Corporation in late 1970 failed to discover any detectable levels of phenols in the ground water. On the basis of this sampling, the MPCA decided that it should not amend its complaint in late 1970 to allege damage to the ground water.

9. During the next three years, the MPCA informed the City, during the City's negotiations with Reilly Tar for the purchase of the land, that further studies would be necessary to determine the extent of ground water contamination and any necessary remedial measures. In June of 1973, the MPCA informed the City that it would not be in a position to consider a dismissal of the complaint against Reilly Tar until the MPCA had received and reviewed a proposal for eliminating any potential pollution problems at the site. See Exhibit 4 to Affidavit of Mary E. Wyatt (June 19, 1978).

10. During the winter of 1973 to 1974, the Minnesota Department of Health conducted sampling activities which revealed new evidence of significant contamination of wells in the area by phenols. The MPCA determined that a hydrogeologic study would be necessary to determine the need for and feasibility of rehabilitation of the contaminated ground water to protect underground public water supplies.

11. Since the discovery of new evidence of ground water contamination in the winter of 1973 to 1974, the MPCA, the Minnesota Department of Health, the City, and private consultants have been engaged in a series of progressively more intensive investigations in an effort to determine the true nature of the ultimate injury to ground water as well as appropriate remedial measures. A literature review of the geology of the area was completed by the Minnesota Geological Survey in early 1974. In July of 1974, a hydrogeologic study of the site was completed by Gerald Sunde, a private consultant. In the fall of 1974 and spring of 1975, the efforts of the MPCA were primarily channeled into an evaluation of a surface water pollution control system proposed by the City. Hearings were held on the City's application for a National Pollutant Discharge Elimination (NPDES) Permit and, as a result of the hearings, a permit was issued to the City in 1975 and a surface water pollution control system was installed at an approximate cost of $1.7 million.

12. On June 20, 1975, the Minnesota State Legislature appropriate $110,000 to the MPCA for a study of the soil and ground water pollution problem at the old Reilly Tar site. A private consultant, Barr Engineering Company, was employed to conduct this study. The first phase of this investigation was concluded in May of 1976 and resulted in the issuance of a Phase I Report. On the basis of this report, the MPCA informed the City and Reilly Tar in July of 1976 that significant ground water pollution was being discovered, and that the State believed the present action to be a viable and active proceeding. See Exhibit 5 to Affidavit of Mary E. Wyatt (June 19, 1978).

13. The second phase of the Barr Engineering study was concluded in June of 1977, resulting in the issuance of a more than 200-page Phase II Report. A true copy of the Barr Engineering Co. Phase II Report is attached hereto as Exhibit 1. This report concluded that pollution of the soil and ground water beneath the site by carcinogenic substances was massive, and that the design of rehabilitative measures will require further studies and investigations.

14. In October of 1977, the Minnesota Department of Health issued a Health Risk Assessment with respect to the various substances found in the soil and ground water beneath the Reilly Tar site. This document reached the conclusion that a serious public health hazard is posed by that pollution.

15. On the basis of the Barr Phase II Report and the Health Risk Assessment, the Minnesota Legislature appropriate in 1978 an additional $200,000 for further studies and designs. The United States Geological Survey has submitted a proposal to the Minnesota Department of Health for conducting the necessary studies over a three-year period at a cost of approximately $400,000.

16. On several occasions subsequent to the sale of the property, the City has sought to obtain from the MPCA a statement of the conditions under which a dismissal of the State's action against Reilly Tar might be contemplated. The MPCA has consistently informed the City that it will not be possible to set forth such conditions until ongoing investigations into the nature and extent of the ultimate injury to the ground water from Reilly Tar's conduct have been completed.

17. One of the aquifers underlying the Reilly Tar site which is threatened with pollution by carcinogenic substances is the Prairie du Chien-Jordan Aquifer. This aquifer underlies the entire Twin Cities Basin and is the principal source of ground water for the Twin Cities geographical area. In 1970, approximately 75% of all ground water pumped in the Twin Cities area was removed from the Prairie du Chien-Jordan Aquifer. Available information indicates that the aquifer is used by up to one-quarter of a million persons as a source of potable water.

18. On March 13, 1978, I personally pumped a ground water sample from a fifty-foot deep monitoring well directly south of the site. After at least 30 minutes of pumping, the water is heavily polluted and before settling, when placed in a 4 1/2 inch diameter jar and held up to a light, is so black that the light cannot be

discerned shining through it. This ground water sample is the first heavily contaminated sample I have personally seen. I had never previously visualized the contamination in such a shocking and graphic way. A polaroid photograph of this ground water sample, taken under my supervision and control on June 19, 1978, is attached hereto as Exhibit 2. Separate polaroid photographs of the same scene under the same conditions and taken within moments of Exhibit 2 have been taken so that they may be supplied to counsel for the City of St. Louis Park and counsel for Reilly Tar & Chemical Corporation along with copies of this Affidavit.

Dale L. Wikre
DALE L. WIKRE

Subscribed and sworn to before me this 19th day of June, 1978.

MARY E. WYATT
NOTARY PUBLIC-MINNESOTA
RAMSEY COUNTY
My Comm. Expires Oct. 24, 1993

Mary E. Wyatt
Notary Public